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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/538,455	03/30/2000	Yang Xu	1787-06001	8304

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EXAMINER
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CHAMBERS, A MICHAEL

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 06/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/538,455

Applicant(s)  
Xu et al

Examiner  
A. Michael Chambers

Art Unit  
3753



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02/15/02.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17, 20, 21, and 23-30 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17, 20, 21, and 23-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 20) ☐ Other:

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### **DETAILED ACTION**

1. This application is a Continued Prosecution Application(CPA) filed October 9, 2001. Claims 18, 19 and 22 have previously been canceled. Claims 28-30 have been added. Contrary to applicants' remarks, claims 1-17, 20, 21 and 23-30 are pending. Claim 1 has previously been amended to define that the "...tubing (at least a part of which being a pre-heat coil) act as a flow restrictor, the extent of said flow restriction sufficient to restrict sample flow to about 50-70 cc/min at 15 psig. By this amendment the recitation of "at 15 psig" has been deleted and flow restrictor recitation has been added.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is with drawn in view of the amendment to claim 1 proving antecedent basis for "said flow restriction".

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*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

5. Claims 1-12, 20, 21, and 23-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Higdon et al. Note the disclosure of a "...stream switching system..." for a chromatograph including a plurality of solenoid valves 98, a sheet heater (column 4, lines 57+), and an insulated hosing (Figure 3B, for example). Contrary to applicants previous remarks, the patent to Higdon et al clearly shows a common stream channel (single inlet/multiple outlet 72) valved by a particular solenoid 98. "At least part of the tubing being pre-heated..." by the "sheet heater" (column 4, lines 57+)(claims 1+). The solenoid actuated valves 98 clearly "valve" the "...input and output ports....between an open and closed position." (Claim 9).. The reduced 'tubing size' shown in Figure 3A (claim 18) acts as a restrictor. With regard to claims 19 and 20, note the plurality of input and output ports (Figure 3A). No patentable weight has been given to the recitation added to claim 1 by the amendment filed August 14, 2001, in the "restrictions" shown in Figure 1 of Higdon et al would be sufficient to restrict the sample flow to "...about 50-70 cc/min. With regard to claim 1. applicants' remarks of the Examiner's first assertion of the capability of the restricted flow path of Higdon to "restrict a sample to about 50-70 cc/min is

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“true” supports the Examiner’s position that the “restrictions shown in Figure 1 of Higdon et al would be sufficient to restrict the sample flow to about 50-70 cc/min” as recited in claim 1. The recitation of “ at 15 psig” has been deleted. With regard to claim 9 remarks, claim 9 includes recitation that an “outside impulse (is required) to place said actuatable ports in the open position”. The recitation appears to be contrary to “...this forces the pistons into an upward position, resulting in closed ports” remarks in the amendment and the recitation of claim 9 is clearly readable on the solenoid valve 98 of Higdon et al operation. Applicants’ remarks that “the solenoids are open when power is not applied and hence allow the flow of actuation pressure when power is not applied” fails to clear up this discrepancy. It appears the problem may be that the solenoids are actually “pilot valves” “fluid motor actuated” valves actuated open and closed in response to the solenoid actuated “pilot valves” rather than be pure solenoid actuated valves as taught by Higdon et al. Reference to “actuation gas” valves in applicants’ remarks appears to support this contention. Contrary to applicants’ remarks the patent to Higdon et al does teach “fluid flow actuation” requiring “...an outside impulse to place the actuatable ports in an open position.”. No “pilot valve” recitation is included is included in the claims. Pure solenoid valves as taught by solenoid valves 98 of Higdon et al are readable on “impulse actuatable valves as recited. With regard to newly submitted claims 28-30 a “temperature controlled” heated is disclosed in the last paragraph of columns 4 and the first paragraph of column 5. The recited temperature of claim 29 is within the operating parameters of the “insulated” (Figure 3B)heated flowpath of Higdon et al.

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***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) a patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or unobviousness.
9. Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higdon et al in view of Upchurch. Higdon et al disclose the claimed invention except for the recitation of a "filter" as taught by Upchurch (Figure 1 ). The plurality of check valves (ball valves) act as "pressure regulators. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the chromatograph system of Higdon et al to include a "cartridge filter" , as taught by Upchurch in order to provide more "pure" fluid to be tested and/or processed. . Further in particular note the disclosure of a filter for the "fluid streams" (column 6, lines 58+) of Higdon et al. Applicant's remarks , drawn to filter disposition, were considered, however, not deemed persuasive. In column 6, lines 58+ both outlet port filters and filters disposed in inlets are disclosed. Particular filter deposition is clearly show in either the inlet or outlet are disclosed and from this teaching it would have been obvious to one of ordinary skill in the art to place the filters where needed in the flowpath.

### *Conclusion*


10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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11. Any inquiry concerning this communication communications from the Examiner should be directed to a. Michael Chambers whose telephone number is (703) 308-1016 (FAX (703) 308-7765).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.



**A. MICHAEL CHAMBERS  
PRIMARY EXAMINER  
ART UNIT 3753**

amc  
June 3, 2002